10/650,012

```
     (FILE 'HOME' ENTERED AT 14:54:05 ON 24 MAR 2005)

     FILE 'REGISTRY' ENTERED AT 14:54:33 ON 24 MAR 2005
L1              STRUCTURE UPLOADED

=> d l1
L1 HAS NO ANSWERS
L1              STR

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY -  AVAILABLE VIA OFFLINE PRINT *

Structure attributes must be viewed using STN Express query preparation.


=> s l1
SAMPLE SEARCH INITIATED 14:55:01 FILE 'REGISTRY'
SAMPLE SCREEN SEARCH COMPLETED -    319 TO ITERATE

100.0% PROCESSED     319 ITERATIONS                              50 ANSWERS
INCOMPLETE SEARCH (SYSTEM LIMIT EXCEEDED)
SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS:  ONLINE  **COMPLETE**
                        BATCH   **COMPLETE**
PROJECTED ITERATIONS:          5309 TO     7451
PROJECTED ANSWERS:              981 TO     2019

L2           50 SEA SSS SAM L1

=> s l1 full
FULL SEARCH INITIATED 14:55:09 FILE 'REGISTRY'
FULL SCREEN SEARCH COMPLETED -   6037 TO ITERATE

100.0% PROCESSED    6037 ITERATIONS                          1284 ANSWERS
SEARCH TIME: 00.00.01

L3          1284 SEA SSS FUL L1

=> fil caplus
COST IN U.S. DOLLARS                          SINCE FILE      TOTAL
                                                   ENTRY    SESSION
FULL ESTIMATED COST                               161.33     161.54

FILE 'CAPLUS' ENTERED AT 14:55:15 ON 24 MAR 2005
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
COPYRIGHT (C) 2005 AMERICAN CHEMICAL SOCIETY (ACS)


Copyright of the articles to which records in this database refer is
held by the publishers listed in the PUBLISHER (PB) field (available
for records published or updated in Chemical Abstracts after December
26, 1996), unless otherwise indicated in the original publications.
The CA Lexicon is the copyrighted intellectual property of the
American Chemical Society and is provided to assist you in searching
databases on STN.  Any dissemination, distribution, copying, or storing
of this information, without the prior written consent of CAS, is
strictly prohibited.

FILE COVERS 1907 - 24 Mar 2005  VOL 142 ISS 13
FILE LAST UPDATED: 23 Mar 2005  (20050323/ED)

  This file contains CAS Registry Numbers for easy and accurate
  substance identification.


=> s l3
L4           683 L3
```

```
=> s l3/prep
          683 L3
      3279352 PREP/RL
L5        289 L3/PREP
                (L3 (L) PREP/RL)

=> s l5 and py<2001
     20649628 PY<2001
L6        172 L5 AND PY<2001

=> s l6 and alcohol
       222046 ALCOHOL
L7          0 L6 AND ALCOHOL

=> s l6 and phosphurus trichloride
            2 PHOSPHURUS
        36148 TRICHLORIDE
            0 PHOSPHURUS TRICHLORIDE
                (PHOSPHURUS(W)TRICHLORIDE)
L8          0 L6 AND PHOSPHURUS TRICHLORIDE

=> s l6 and phosphorus trichloride
       281374 PHOSPHORUS
        36148 TRICHLORIDE
         3968 PHOSPHORUS TRICHLORIDE
                (PHOSPHORUS(W)TRICHLORIDE)
L9         35 L6 AND PHOSPHORUS TRICHLORIDE

=> d 1-36 bib abs

L9   ANSWER 1 OF 35  CAPLUS  COPYRIGHT 2005 ACS on STN
AN   2000:540304  CAPLUS
DN   133:281869
TI   Synthesis of Molybdenum Imido Alkylidene Complexes That Contain
     3,3'-Dialkyl-5,5',6,6'-tetramethyl-1,1'-biphenyl-2,2'-diolates (Alkyl =
     t-Bu, Adamantyl). Catalysts for Enantioselective Olefin Metathesis
     Reactions
AU   Alexander, John B.; Schrock, Richard R.; Davis, William M.; Hultzsch, Kai
     C.; Hoveyda, Amir H.; Houser, Jeffrey H.
CS   Departments of Chemistry, Massachusetts Institute of Technology,
     Cambridge, MA, 02139, USA
SO   Organometallics (2000), 19(18), 3700-3715
     CODEN: ORGND7; ISSN: 0276-7333
PB   American Chemical Society
DT   Journal
LA   English
OS   CASREACT 133:281869
AB   Two 3,3'-dialkyl-5,5',6,6'-tetramethyl-1,1'-biphenyl-2,2'-diols (alkyl =
     t-Bu, 1-adamantyl) were prepared in two steps and resolved as the menthol
     phosphate derivative  Addition of the dipotassium salt of each biphenolate to
     various Mo(N-Aryl)(CHR)(OTf)2(DME) complexes produced racemic and
     enantiopure compds. Mo(N-aryl)(CHR)(biphenolate).  X-ray crystallog.
     studies of syn-Mo(N-2,6-i-Pr2C6H3)(CHCMe2Ph)[(S)-Biphen] and
     syn-Mo(N-2-CF3C6H4)(CHCMe3)[(S)-Biad](pyridine) proved the absolute
     stereochem. of the biphenolate ligands.  Neophylidene and neopentylidene
     complexes have predominantly the syn conformation in solution  The
     [syn]/[anti] equilibrium constant for Mo(N-Aryl)(CHR)[Biphen] complexes increased
     in magnitude with decreasing size of the arylimido ligand, and decreased
     upon reducing the steric bulk of the alkylidene substituent.  The rates of
     exchange of syn and anti isomers, as determined by single-parameter line shape
     anal. and by spin saturation transfer, are on the order of .apprx.1 s-1 at
     22°.
RE.CNT  46    THERE ARE 46 CITED REFERENCES AVAILABLE FOR THIS RECORD
              ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9   ANSWER 2 OF 35  CAPLUS  COPYRIGHT 2005 ACS on STN
AN   1999:487912  CAPLUS
DN   131:300733
```

TI Asymmetric Hydroformylation of Olefins in Highly Crosslinked Polymer Matrixes

AU Nozaki, Kyoko; Shibahara, Fumitoshi; Itoi, Yohei; Shirakawa, Eiji; Ohta, Tetsuo; Takaya, Hidemasa; Hiyama, Tamejiro

CS Dep. Mater. Chem., Grad. Sch. Eng., Kyoto University, Yoshida, Kyoto, 606-8501, Japan

SO Bulletin of the Chemical Society of Japan (**1999**), 72(8), 1911-1918
CODEN: BCSJA8; ISSN: 0009-2673

PB Chemical Society of Japan

DT Journal

LA English

AB When polymer-immobilized chiral phosphine-phosphite-Rh(I) complexes were used, the asym. hydroformylation of styrene gave 2- and 3-phenylpropanals with a substrate/catalyst ratio of 2000, iso/normal ratios of 84/16 to 89/11, and 89% R enantiomeric excess of 2-phenylpropanal; these results were at the highest level in catalytic activity, regio-, and enantioselectivities. Recovery-reuse of the catalyst was examined Asym. hydroformylation of vinyl acetate, (Z)-2-butene, and 3,3,3-trifluoropropene was also successfully performed with the polymer-supported catalysts.

RE.CNT 41 THERE ARE 41 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 3 OF 35 CAPLUS COPYRIGHT 2005 ACS on STN

AN 1999:463382 CAPLUS

DN 131:103014

TI Aromatic monovinyl polymer composition, it manufacture and thermal decomposition prevention of the aromatic monovinyl resin

IN Fukuda, Kanako; Miyake, Kunihito; Sasaki, Manji

PA Sumitomo Chemical Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 15 pp.
CODEN: JKXXAF

DT Patent

LA Japanese

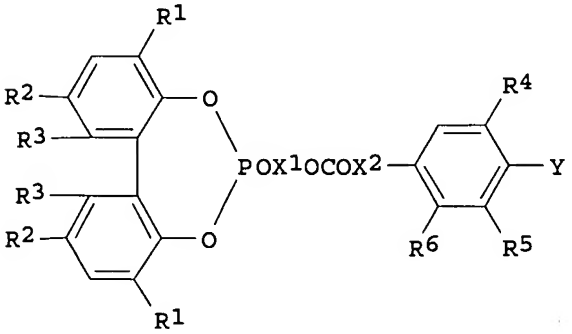
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 11199728	A2	19990727	JP 1998-5187	19980113 <--

PRAI JP 1998-5187 19980113

OS MARPAT 131:103014

GI



I

AB The composition comprises an aromatic monovinyl polymer containing 0.01-5 phr compound I (R1, R2, R4, R5 = H, C1-8 alkyl, C5-8 cycloalkyl, C6-12 alkylcycloalkyl, C7-12 aralkyl, Ph; R3, R6 = H, C1-8 alkyl; X1 = divalent alkoxy residue; X2 = C1-8 alkylene; Y = OH, C1-8 alkoxy, C7-12 arakoxy). Thus, a thermal stable composition was made from polystyrene containing 0.3 phr 2,4,8,10-tetra-tert-butyl-6-{2-[3-(3,5-di-tert-butyl-4-hydroxyphenyl)propionyloxy]ethoxy}dibenzo[d,f][1,2,3] dioxaphosphepin, prepared by the reaction of 3,3',5,5'-tetra-tert-Bu biphenyl-2,2'-diol, **phosphorus trichloride**, and 2-hydroxyethyl 3-(3,5-di-tert-butyl-4-hydroxyphenyl) propionate in toluene anhydrate in

the presence of triethylamine.

L9 ANSWER 4 OF 35 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1999:447693 CAPLUS
DN 131:257905
TI Synthesis of a Calix[6]arene-Derived Diphosphite, Its Palladium and Platinum Complexes, and the Remarkable Activity of (syn-Calix[6]arene diphosphite)Pd(CH3)(CH3CN)OTf in Carbon Monoxide and Ethene Copolymerization
AU Parlevliet, Floris J.; Zuideveld, Martin A.; Kiener, Christoph; Kooijman, Huub; Spek, Anthony L.; Kamer, Paul C. J.; van Leeuwen, Piet W. N. M.
CS Institute of Molecular Chemistry Department of Inorganic Chemistry and Homogeneous Catalysis, University of Amsterdam, Amsterdam, 1018 WV, Neth.
SO Organometallics (**1999**), 18(17), 3394-3405
CODEN: ORGND7; ISSN: 0276-7333
PB American Chemical Society
DT Journal
LA English
AB Two noninterconvertable conformations of calix[6]arene diphosphite (I) were synthesized starting from calix[6]arene and PCl3. The conformations differ in the orientation of the phosphite moieties (syn and anti). In the syn conformation the phosphorus lone pairs of the phosphite have an exo orientation with respect to the cavity of the calixarene backbone. The fluxional behavior shown by syn-I in solution is described as a up-up-out ↔ out-up-up interconversion of the calix[6]arene backbone. The syn diphosphite behaves as an exclusively cis coordinating ligand toward palladium(II) and platinum(II). Two syn diphosphite ligands coordinate to palladium(0), and the geometry of the complex is probably a distorted tetrahedron. The X-ray structure of (syn-I)PdCl2 demonstrated the cis coordination mode and the C2 symmetry of the ligand. The cationic complex (syn-I)Pd(CH3)(CH3CN)OTf is the first reported complex based on a diphosphite ligand that shows catalytic activity in the copolymn. of carbon monoxide and ethene. Turnover frequencies were 850-5300 mol mol-1 h-1 (25 °C, 20 bar carbon monoxide/ethene). The <Mn> of all tested polymers was approx. 34 000 with a polydispersity index of 2.3. From 13C NMR spectral data we conclude that hydrolysis of the acyl intermediate to a carboxylic acid is the most important chain-transfer mechanism. To a lesser extent (15% of all chain ends) β-H elimination of the alkyl intermediate gave rise to vinyl end groups. All elementary steps in chain propagation have been monitored by IR spectroscopy and low-temperature NMR expts.
RE.CNT 62 THERE ARE 62 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 5 OF 35 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1999:297593 CAPLUS
DN 131:88019
TI Aryloxypropanoic herbicides by asymmetric hydroformylation catalyzed by rhodium carbonyl complexes modified with phosphorus ligands
AU Botteghi, Carlo; Delogu, Giovanna; Marchetti, Mauro; Paganelli, Stefano; Sechi, Barbara
CS Dipartimento di Chimica, Universita di Venezia, Venice, I-30123, Italy
SO Journal of Molecular Catalysis A: Chemical (**1999**), 143(1-3), 311-323
CODEN: JMCCF2; ISSN: 1381-1169
PB Elsevier Science B.V.
DT Journal
LA English
OS CASREACT 131:88019
AB Three aryl vinyl ethers (aryl = Ph, 4-Cl-2-MeC6H3, 2,4-Cl2C6H3) were subjected to enantioselective Rh(I) catalyzed hydroformylation using diphosphites described in the literature (derived from racemic or (R)-1,1'-binaphthalene-2,2'-diol alone or with (2R,4R)-2,4-pentanediol) and diphosphites synthesized in the authors' labs. as ligands derived from (R)-3,3'-bis(trimethylsilyl)-1,1'-binaphthalene-2,2'-diol alone or (R)-1,1'-binaphthalene-2,2'-diol with alcs. (4-methoxyphenol, 2-tert-butylphenol, 1,4:3,6-dianhydro-D-mannitol, (+)-pinanediol). All these ligands afforded in most cases 80-90% yields 2-aryloxypropanals as valuable precursors of the very selective herbicides, 2-aryloxypropanoic

acids. The same unsatd. substrates were also hydroformylated in the presence of Rh complexes with com. available ferrocenylphosphines (aR,S)-1-Ph2P-2-R2PCHMeferrocene (R = tBu, Cy) and (aR,S)-1-Cy2P-2-Ph2PCHMeferrocene: these catalytic complexes showed generally satisfactory reaction rates as well as regioselectivities, but in some cases, lower chemoselectivities than those containing diphosphites. The enantioselectivities obtained with all described ligands were rather low (up to 9%).

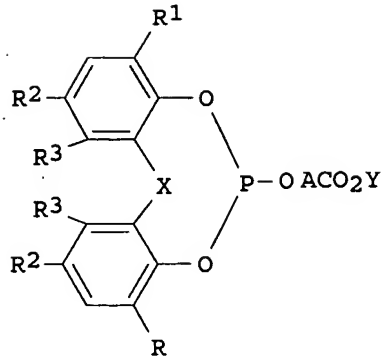
RE.CNT 47 THERE ARE 47 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 6 OF 35 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1999:129247 CAPLUS
DN 130:282103
TI Structure-Activity Relationship of Diaryl Phosphonate Esters as Potent Irreversible Dipeptidyl Peptidase IV Inhibitors
AU Belyaev, Alexander; Zhang, Xuemei; Augustyns, Koen; Lambeir, Anne-Marie; De Meester, Ingrid; Vedernikova, Irina; Scharpe, Simon; Haemers, Achiel
CS Departments of Pharmaceutical Chemistry and Medical Biochemistry, University of Antwerp (UIA), Antwerp, B-2610, Belg.
SO Journal of Medicinal Chemistry (**1999**), 42(6), 1041-1052
CODEN: JMCMAR; ISSN: 0022-2623
PB American Chemical Society
DT Journal
LA English
AB The previously reported di-Ph 1-(S)-prolylpyrrolidine-2(R,S)-phosphonate was used as a lead compound for the development of potent and irreversible inhibitors of dipeptidyl peptidase IV (DPP IV, EC 3.4.14.5). The synthesis of diaryl 1-(S)-prolylpyrrolidine-2(R,S)-phosphonates with different substituents on the aryl rings (hydroxyl, methoxy, acylamino, sulfonylamino, ureyl, methoxycarbonyl, and alkylaminocarbonyl) started from the corresponding phosphites. A good correlation was found between the electronic properties of the substituent and the inhibitory activity and stability. The most striking divergence of this correlation was the high potency combined with a high stability of the 4-acetylamino-substituted derivative 11e. This compound shows low cytotoxicity in human peripheral blood mononuclear cells and also has favorable properties in vivo. Therefore bis(4-acetamidophenyl) 1-(S)-prolylpyrrolidine-2(R,S)-phosphonate (11e) is considered as a major improvement and will be a highly valuable DPP IV inhibitor for further studies on the biol. function of the enzyme and the therapeutic value of its inhibition.
RE.CNT 35 THERE ARE 35 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 7 OF 35 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1998:277368 CAPLUS
DN 128:322373
TI Phosphorous acid esters, their production and use
IN Kikuchi, Taketoshi; Inui, Naoki; Fukuda, Kanako; Sanada, Takashi
PA Sumitomo Chemical Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 15 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 10114784	A2	19980506	JP 1997-149272	19970606 <--
	US 5830936	A	19981103	US 1997-916229	19970822 <--
PRAI	JP 1996-222491	A	19960823		
	JP 1996-225139	A	19960827		

OS MARPAT 128:322373
GI



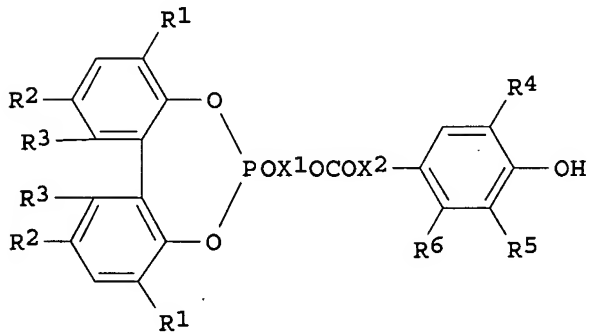
I

AB The compds. I (R1, R2 = H, alkyl, cycloalkyl, alkylcycloalkyl, aralkyl, Ph; R3 = H, alkyl; X = direct bond, S, (alkyl or cycloalkyl-substituted) methylene; A = direct bond, alkylene; Y = aralkyl, aryl) are useful as stabilizers for thermoplastics, especially polyolefins. Benzyl [(2,4,8,10-tetra-tert-Bu dibenzo[d,f][1,3,2]dioxaphosphepin-6-yl)oxy]acetate was prepared and used as a stabilizer for polypropylene.

L9 ANSWER 8 OF 35 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1997:342210 CAPLUS
DN 126:318217
TI Phosphites and their preparation and use as stabilizers for organic materials
IN Fukuda, Kanako; Inui, Naoki
PA Sumitomo Chemical Company Limited, Japan
SO Eur. Pat. Appl., 11 pp.
CODEN: EPXXDW
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 767175	A1	19970409	EP 1996-307180	19961001 <--
	EP 767175	B1	20011212		
	R: CH, DE, FR, GB, LI				
	JP 09095493	A2	19970408	JP 1995-254858	19951002 <--
	US 5843339	A	19981201	US 1996-723933	19961001 <--
	TW 407162	B	20001001	TW 1996-85111981	19961001 <--
PRAI	JP 1995-254858	A	19951002		

OS MARPAT 126:318217
GI



I

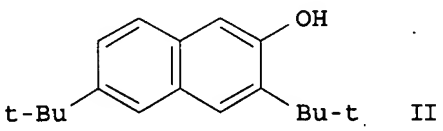
AB Phosphites I (independently R1, R2, R4 and R5 = H, C1-8 alkyl, C5-8 cycloalkyl, C6-12 alkylcycloalkyl, C7-12 aralkyl, Ph; R3, R6 = H, C1-8 alkyl; X1 is a dihydric alc. residue; and X2 is a direct bond or C1-8 alkylene), useful as stabilizers for organic materials, e.g., polymers, waxes, lubricating oils, are prepared by reacting a biphenol and a phosphorus trihalide with an alc. in the presence of a dehydrohalogenating

agent. Thus, 6.2 g PCl3 was added dropwise to 18.8 g 3,3',5,5'-tetra-tert-butylbiphenyl-2,2'-diol and 94.5 g triethylamine under N, reacted 3 h at 80°, and cooled, then 4.75 g triethylamine and 12.7 g 3-(3-tert-butyl-4-hydroxy-5-methylphenyl)propionic acid 2-hydroxyethyl ester in 50 mL toluene were added and the mixture refluxed for 6 h to give, after purification, 20.6 g colorless crystalline [2-[(2,4,8,10-tetra-tert-butyldibenzo[d,f][1,3,2]dioxaphosphepin-6-yl)oxy]ethyl] [3-(3-tert-butyl-4-hydroxy-5-methylphenyl)]propionate, which (0.1 phr) imparted processing stability, hydrolysis resistance, and improved dispersibility to LLDPE.

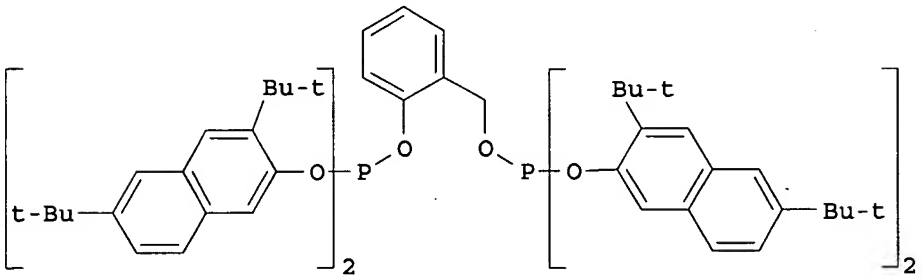
L9 ANSWER 9 OF 35 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1996:751806 CAPLUS
DN 126:31486
TI preparation of bisphosphite compounds as catalysts for hydroformylation
IN Sato, Keiichi; Takahashi, Eitaro; Tanihara, Yoshifumi; Wada, Yasuhiro
PA Mitsubishi Chemical Corp., Japan
SO Jpn. Kokai Tokkyo Koho, 27 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 08259578	A2	19961008	JP 1996-10061	19960124 <--
	US 5663403	A	19970902	US 1996-588390	19960118 <--
	DE 19602301	A1	19960725	DE 1996-19602301	19960123 <--
	US 5728861	A	19980317	US 1997-820434	19970312 <--
PRAI	JP 1995-8924	A	19950124		
	US 1996-588390	A3	19960118		

OS MARPAT 126:31486
GI



II



III

AB (R1O)(R2O)POWLOP(OR3)(OR4) [I; R1-R4 = (un)substituted alkyl, aryl, alkylaryl, aralkyl, alicyclyl;, R1R2, R3R4 = ring residue; W = (un)substituted arylene; L = (un)substituted alkylene, alkenylene], useful as hydroformylation catalysts for high isomer selectivity and low byproduct formation, are prepared PCl3 in toluene was added to a solution of naphthol II and Et3N in toluene with stirring at room temperature, the phosphoryl chloride intermediate was further treated with 2-HOC6H4CH2OH and Et3N in toluene at room temperature to give bisphosphite III. Hydroformylation of propylene over a mixture catalyst of III and [Rh(OAc)(CO)]2 (molar ratio of P/Rh = 8) with 1:1 H/CO under N gave 87.4% PrCHO and 0.6% propane, vs. 86.8 and 2.3%, resp., with a sym. bisphosphite catalyst. Also prepared were 10 addnl. I, which gave high yields of PrCHO and < 1% propane.

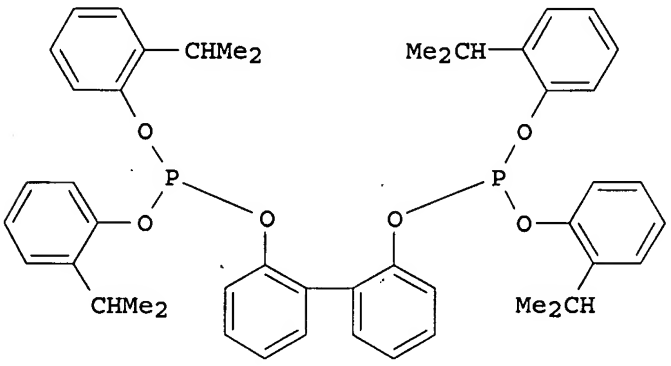
L9 ANSWER 10 OF 35 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1996:584656 CAPLUS
DN 125:276149
TI Chiral tripodal rhodium complexes: ligand synthesis, complex chemistry, catalysis
AU Scherer, J.; Huttner, G.; Buechner, M.; Bakos, J.
CS Anorganisch-Chemisches Institut, Universitaet Heidelberg, Heidelberg, D-69120, Germany
SO Journal of Organometallic Chemistry (1996), 520(1-2), 45-58
CODEN: JORCAI; ISSN: 0022-328X
PB Elsevier
DT Journal
LA German
OS CASREACT 125:276149
AB The reaction of epichlorohydrin with LiPPh2 yields the alc. HOCH(CH2PPh2)2 1 in a stereochem. controlled reaction. To prove the constitution and coordination ability of 1, the compound has been used to synthesize the homoleptic bisdiphosphine-rhodium complexes trans/cis-[(1)2Rh1]BPh4 2a,b. The x-ray structure of 2b shows a significant tetrahedral distortion of the planar coordination geometry theor. favored for a tetracoordinate metal d8 coordination compound The diphosphino alc. 1 easily reacts with chiral phosphorochloridates X2PCl [X2 = (2R,4R)-2,4-pentanedioxy (3a); (±)- and R-2,2'-bi-1-naphthoxy- (3b)] to yield chiral-racemic as well as enantiomerically pure mixed donor group tripodal ligands X2POCH(CH2PPh2)2 5a,b containing both phosphite and phosphine donor groups. The identity of these compds. has been proven by 1H-, 31P- and 13C-NMR spectroscopy, mass-spectra and microanal. The coordination capabilities of these novel tripod ligands are demonstrated by the synthesis and characterization of the chiral rhodium-cyclooctadiene complexes {[(5a,b)Rh1(COD)]PF6} 6a,b, which show the typical hetero-bicyclooctane tripod metal cage of this type of tripod metal template. The rhodium complexes 6a,b are catalysts for the hydrogenation of prochiral olefines. Their activity is not too high and the enantioselectivity is low. The trihapto-coordination of the tripodal ligands is more of an impediment for this type of catalytic transformation.

L9 ANSWER 11 OF 35 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1996:501513 CAPLUS
DN 125:168708
TI Ring Opening Metathesis Polymerization with Binaphtholate or Biphenolate Complexes of Molybdenum
AU Totland, Karen M.; Boyd, Thomas J.; Lavoie, Gino G.; Davis, W. M.; Schrock, Richard R.
CS Department of Chemistry, Massachusetts Institute of Technology, Cambridge, MA, 02139, USA
SO Macromolecules (1996), 29(19), 6114-6125
CODEN: MAMOBX; ISSN: 0024-9297
PB American Chemical Society
DT Journal
LA English
AB Several racemic or enantiomerically pure complexes of the general type Mo(CHR)(NR')(O2R'') that contain binaphtholate or biphenolate (O2R'') ligands have been prepared and employed to ring open several achiral, racemic, or enantiomerically pure norbornenes and norbornadienes. A bimodal mol. weight distribution sometimes results from polymerization of an enantiomerically pure monomer with a racemic initiator as a consequence of a different rate of chain growth from enantiomeric metal centers. The analogous polymerization of an enantiomerically pure monomer with an enantiomerically pure initiator yields only a single polymer chain, as expected. Evaluation of the cis content of the resulting polymers suggests that cis polymer results from polymerization via syn alkylidene propagating species and that accessibility of the anti rotamer on the polymerization time scale is determined by a subtle combination of steric bulk in the biphenoxide and imido ligands. All cis polymers were found to be highly isotactic. The X-ray structures of two catalytically active species are also described. One is a THF adduct of 3,3'-diphenyl-2,2'-diolate-1,1'-dinaphthyl (anti rotamer) while the other is a base-free syn species that contains the 6,6'-dimethyl-3,3',5,5'-tetra-tert-butyl-1,1'-biphenyl-2,2'-diolate ligand.

L9 ANSWER 12 OF 35 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1996:446577 CAPLUS
DN 125:114851
TI Hydrocyanation process and multidentate phosphite and nickel catalyst composition therefor
IN Kreutzer, Kristina Ann; Tam, Wilson
PA E. I. Du Pont de Nemours & Co., USA
SO PCT Int. Appl., 42 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9611182	A1	19960418	WO 1995-US12214	19950929 <--
	W: BR, CA, CN, JP, KR, SG				
	RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	US 5512696	A	19960430	US 1995-505137	19950721 <--
	IN 184220	A	20000708	IN 1995-CA1160	19950926 <--
	CA 2200303	AA	19960418	CA 1995-2200303	19950929 <--
	EP 784610	A1	19970723	EP 1995-935101	19950929 <--
	EP 784610	B1	19990210		
	R: AT, BE, CH, DE, ES, FR, GB, IT, LI, NL, SE				
	CN 1159799	A	19970917	CN 1995-195429	19950929 <--
	CN 1047163	B	19991208		
	BR 9509494	A	19971014	BR 1995-9494	19950929 <--
	JP 10506911	T2	19980707	JP 1996-512592	19950929 <--
	JP 3535172	B2	20040607		
	AT 176665	E	19990215	AT 1995-935101	19950929 <--
	ES 2129234	T3	19990601	ES 1995-935101	19950929 <--
	US 5663369	A	19970902	US 1995-543672	19951016 <--
PRAI	US 1994-320025	A	19941007		
	US 1995-505137	A	19950721		
	WO 1995-US12214	W	19950929		

OS CASREACT 125:114851
GI



I

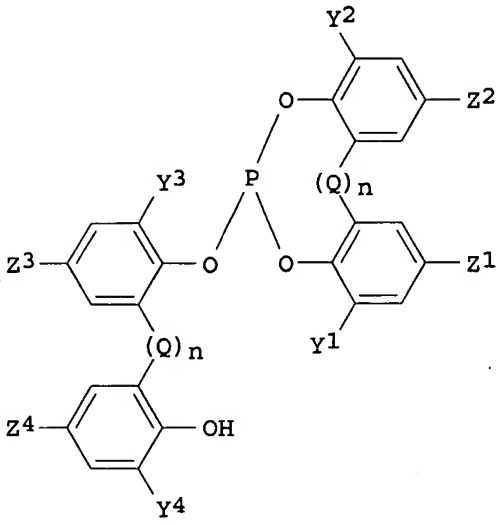
AB A process for hydrocyanation of an aliphatic monoethylenically unsatd. compound, in which the ethylenic double bond is not conjugated to any other unsatd. group in the mol., or a monoethylenically unsatd. compound in which the ethylenic double bond is conjugated to an ester group, which process uses a catalyst composition comprising a zero-valent nickel and a multidentate phosphite ligand in the presence of a Lewis acid promoter. Thus, Ni(COD)2-catalyzed hydrocyanation of 3-pentenenitrile with HCN in the presence of ligand I (preparation given) and ZnCl2 in THF gave a mixture of 46.7% adiponitrile, 8% 2-methylglutaronitrile, and 1% Et succinonitrile.

L9 ANSWER 13 OF 35 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1996:353173 CAPLUS
DN 125:12497
TI Hydroxyaryl phosphite stabilized compositions for polyolefins

IN Shum, Sai Ping; Pastor, Stephen Daniel
PA Ciba-Geigy A.-G., Switz.
SO Eur. Pat. Appl., 19 pp.
CODEN: EPXXDW
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 705874	A1	19960410	EP 1995-810603	19950928 <--
	R: DE, FR, GB, IT				
	JP 08208885	A2	19960813	JP 1995-286879	19951006 <--
PRAI	US 1994-319400	A	19941006		

OS MARPAT 125:12497
GI



I

AB Selected hydroxyaryl phosphites I (n = 0, 1; Q = direct bond when n = 0; when n = 1, Q = CR1R2; R1, R2 = H, C1-18 straight-chain alkyl; C1-12 branched chain alkyl, etc.; Y1-4 and Z1-4 = H; C1-18 alkyl; cyano, nitro, halogen, amino, hydroxy, etc.) which are known as ligands for catalysts for hydroformylation reactions and as intermediates for making complex phosphite stabilizers, are surprisingly effective themselves as stabilizers for organic materials, particularly polyolefins. Adding 5.32 mL PCl3 to a solution containing 50 g 2,2'-bis(4,6-di-tert-butylphenol), 25.5 mL Et3N and 300 mL THF, stirring 3 h at room temperature, and refluxing 2 h gave 45 g (86.9%) I (n = 0; Y1-4 and Z1-4 = tert-Bu) with m.p 247-250°. I was used to stabilize a polypropylene (Profax 6501).

L9 ANSWER 14 OF 35 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1995:872061 CAPLUS
DN 123:286288
TI Processes and catalyst compositions for hydrocyanation of monoolefins
IN Tam, Wilson; Kreutzer, Kristina Ann; McKinney, Ronald James
PA du Pont de Nemours, E. I., and Co., USA
SO PCT Int. Appl., 52 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9514659	A1	19950601	WO 1994-US12794	19941107 <--
	W: BR, CA, CN, JP, KR, US, US				
	RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				

	IN 181958	A	19981121	IN 1994-CA894	19941028 <--
	CA 2177135	AA	19950601	CA 1994-2177135	19941107 <--
	EP 730574	A1	19960911	EP 1995-901801	19941107 <--
	EP 730574	B1	19980819		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, NL, PT, SE				
	CN 1142224	A	19970205	CN 1994-194862	19941107 <--
	CN 1082946	B	20020417		
	JP 09505586	T2	19970603	JP 1995-515089	19941107 <--
	JP 3553952	B2	20040811		
	BR 9408151	A	19970805	BR 1994-8151	19941107 <--
	AT 169902	E	19980915	AT 1995-901801	19941107 <--
	ES 2122515	T3	19981216	ES 1995-901801	19941107 <--
	TW 457244	B	20011001	TW 1994-83110338	19941108
	IN 182654	A	19990612	IN 1995-CA414	19950417 <--
	US 5688986	A	19971118	US 1995-424351	19950426 <--
	IN 186510	A	20010922	IN 1998-CA2223	19981229
	CN 1327881	A	20011226	CN 2001-117070	20010420
	CN 1145531	B	20040414		
PRAI	US 1993-157342	A2	19931123		
	US 1994-198963	A2	19940218		
	WO 1994-US12794	W	19941107		
	IN 1995-CA414	A	19950417		

OS CASREACT 123:286288; MARPAT 123:286288

GI For diagram(s), see printed CA Issue.

AB Processes for hydrocyanation of nonconjugated acyclic aliphatic monoolefins, monoolefins conjugated to an ester group, or monoolefins conjugated to a nitrile group, e.g., 3-pentenenitrile, which use a catalyst precursor composition comprising a bidentate phosphite ligand I (wherein each R1 is independently a tertiary substituted hydrocarbon of up to 12 C atoms, or OR4 wherein R4 is C1-12 alkyl; each R5 is independently a tertiary substituted hydrocarbon of up to 12 C atom) and zero-valent Ni preferably in the presence of a Lewis acid promoter. Catalyst precursor compns. are also disclosed.

L9 ANSWER 15 OF 35 CAPLUS COPYRIGHT 2005 ACS on STN

AN 1995:868345 CAPLUS

DN 124:87141

TI Pentacoordinated molecules. 82. Conformational preferences of monocyclic pentaoxyphosphoranes varying in ring size

AU Burton, Sarah D.; Swamy, K. C. Kumara; Holmes, Joan M.; Day, Roberta O.; Holmes, Robert R.

CS Contribution Dep. Chem., Univ. Massachusetts, Amherst, MA, 01003, USA

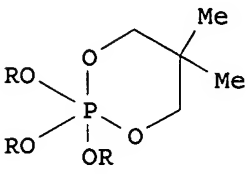
SO Phosphorus, Sulfur and Silicon and the Related Elements (**1995**), 100(1-4), 23-50
CODEN: PSSLEC; ISSN: 1042-6507

PB Gordon & Breach

DT Journal

LA English

GI



I

AB Eight new monocyclic pentaoxyphosphoranes including a furanosyl derivative, e.g., I (R = 2,6-dimethylphenyl), were synthesized from the reaction of tris(2,6-dimethylphenyl) phosphite (5) with a diol or a quinone. Six pentacoordinated derivs. were studied by x-ray anal. and represent the 1st structurally characterized monocyclic oxyphosphoranes that have six-, seven-, and eight-membered rings. All possess trigonal-bipyramidal geometries with the rings spanning apical-equatorial positions. Retention of these structures in solution is indicated by 1H, 13C, and 31P NMR. Twist-boat, rowboat, and distorted-tub conformations are found for the

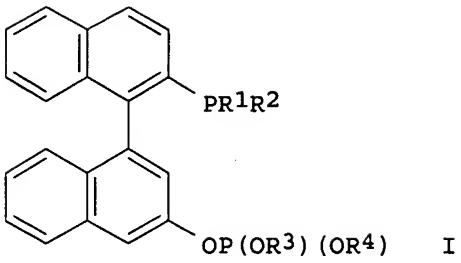
six-, seven- and eight-membered ring derivs. Variable-temperature 1H and 13C NMR establish nonrigid behavior supporting a simple Berry pseudorotation in which the rings exchange apical-equatorial positions. Six-membered rings of pentaoxyphosphoranes prefer apical-equatorial sites of a TBP. The preferred conformation of saturated six-membered rings is generally that of a boat.

L9 ANSWER 16 OF 35 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1995:363531 CAPLUS
DN 122:190952
TI Hydridorhodium diphosphite catalysts in the asymmetric hydroformylation of styrene
AU Buisman, Godfried J. H.; Vos, Eric J.; Kamer, Paul C. J.; van Leeuwen, Piet W. N. M.
CS Dep. Inorg. Chem., Univ. Amsterdam, Amsterdam, 1018 WV, Neth.
SO Journal of the Chemical Society, Dalton Transactions: Inorganic Chemistry (**1995**), (3), 409-17
CODEN: JCDTBI; ISSN: 0300-9246
PB Royal Society of Chemistry
DT Journal
LA English
AB Chiral diphosphites based on (2R,3R)-butane-2,3-diol, (2R,4R)-pentane-2,4-diol, (2S,5S)-hexane-2,5-diol, (1S,3S)-diphenylpropane-1,3-diol, and N-benzyltartarimide as chiral bridges have been used in the rhodium-catalyzed asym. hydroformylation of styrene. Enantioselectivities up to 76% at 50% conversion have been obtained with stable hydridorhodium diphosphite catalysts. High regioselectivities (>95%) and high conversion (>99%) to 2-phenylpropanal were found under relatively mild reaction conditions [25-40°C, 9 bar of CO-H2 (1:1) pressure]. The solution structures of [RhH(L)(CO)2] complexes (L = bidentate diphosphite) have been studied; NMR and IR spectroscopic data revealed fluxional behavior. Depending on the structure of the bridge, the diphosphite adopts equatorial-equatorial or equatorial-axial co-ordination to the rhodium. The structure and the stability of the catalysts seems to play a fundamental role in the asym. induction.

L9 ANSWER 17 OF 35 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1995:231203 CAPLUS
DN 122:10257
TI preparation of phosphine compounds and their transition metal complexes
IN Takaya, Hidemasa; Sakai, Nozomu; Tamao, Kyoko Beru Mezon; Mano, Satoshi; Kumobayashi, Hidenor; Tomita, Tetsu
PA Mitsubishi Gas Chemical Company, Inc., Japan; Takasago International Corporation
SO Eur. Pat. Appl., 12 pp.
CODEN: EPXXDW
DT Patent
LA English
FAN.CNT 5

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 614901	A1	19940914	EP 1994-103674	19940310 <--
	EP 614901	B1	19980812		
	R: CH, DE, FR, GB, IT, LI, NL				
	JP 06263776	A2	19940920	JP 1993-52538	19930312 <--
	JP 3313805	B2	20020812		
PRAI	JP 1993-52538	A	19930312		

OS CASREACT 122:10257; MARPAT 122:10257
GI



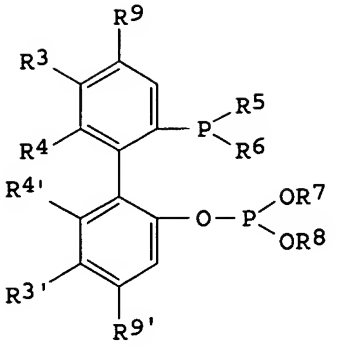
I

AB Disclosed herein is the preparation of phosphine compound I (R1, R2 = same or different halo or lower alkyl group substituted Ph, divalent hydrocarbon group; R3, R4 = same or different alkyl, halo or lower alkyl group substituted Ph, divalent hydrocarbon group), and their transition metal-phosphine complexes. When the transition metal-phosphine complex is used as a catalyst for asym. synthesis, an intended product having a desired absolute configuration can be obtained in a high optical purity at a high yield. Thus, reaction of (R)-2-diphenylphosphino-2'-hydroxy-1,1'-binaphthyl (preparation given) with (S)-1,1'-binaphthalene-2,2'-diyldioxychlorophosphine (preparation given) in the presence of Et3N in Et2O gave 98% title phosphine, (R)-2-diphenylphosphino-1,1'-binaphthalene-2'-yloxy((S)-1,1'-binaphthalene-2,2'-diyldioxy)phosphine, which was reacted with [Rh(CO)2(acac)] to give asym. hydroformylation catalyst for vinyl acetate or styrene.

L9 ANSWER 18 OF 35 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1995:231201 CAPLUS
DN 122:239952
TI Preparation of diphosphines and rhodium complexes and their use for producing optically active aldehydes and 4-[(R)-1'-formylethyl]azetidin-2-one derivatives.
IN Saito, Takao; Matsumura, Kazuhiko; Kato, Yasushi; Sayo, Noboru; Kumobayashi, Hidenori
PA Takasago International Corporation, Japan
SO Eur. Pat. Appl., 31 pp.
CODEN: EPXXDW
DT Patent
LA English
FAN.CNT 5

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 614903	A2	19940914	EP 1994-301775	19940311 <--
	EP 614903	A3	19950111		
	EP 614903	B1	20000920		
	R: CH, DE, FR, GB, IT, LI, NL				
	JP 06316560	A2	19941115	JP 1994-54426	19940301 <--
	JP 3277065	B2	20020422		
	JP 2002128759	A2	20020509	JP 2001-328632	19940301
	EP 684249	A1	19951129	EP 1995-111575	19940311 <--
	EP 684249	B1	20030219		
	R: CH, DE, FR, GB, IT, LI, NL				
	EP 684230	A1	19951129	EP 1995-111576	19940311 <--
	EP 684230	B1	20020703		
	R: CH, DE, FR, GB, IT, LI, NL				
PRAI	JP 1993-77484	A	19930312		
	JP 1994-54426	A3	19940301		
	EP 1994-301775	A3	19940311		

OS CASREACT 122:239952; MARPAT 122:239952
GI



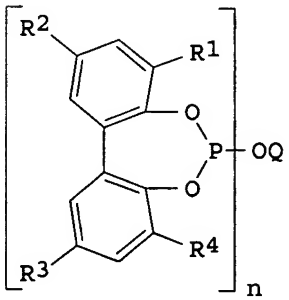
I

AB The preparation of novel phosphine compds., e.g. I (R4, R4' = H, lower alkyl, alkoxy; R3, R3', R9, R9' = H, lower alkyl, alkoxy, halo; R3R4, R3'R4' = ring; R5, R6 = (un)substituted Ph, halo, lower alkoxy; R7, R8 = (un)substituted Ph; R7R8 = divalent hydrocarbon), useful in the form of their transition metal complexes, of or compds. with transition metals, in producing an optically active aldehyde by hydroformylation of an olefin with high positional and steric selectivities, are described. 4-[(R)-1'-formylethyl]azetidin-2-one derivs. obtainable by the process is particularly useful as an intermediate for the preparation of carbapenem antibiotics. Thus, reaction of (±)-3,3'-dichloro-2,2',4,4'-tetramethyl-6-diphenylphosphino-6'-hydroxybiphenyl (preparation given) with (R)-1,1'-binaphthalene-2,2'-diyldioxychlorophosphine (preparation given) in PhMe in the presence of Et3N gave (S)-3,3'-dichloro-2,2',4,4'-tetramethyl-6-diphenylphosphinobiphenyl-6'-yloxy((R)-1,1'-binaphthalene-2,2'-diyldioxy)phosphine (II). Hydroformylation of styrene in the presence of Rh(acac)(CO)2 (catalyst) and ligand II gave good yield of (S)-(+)-2-phenylpropanal with 94% enantiomeric excess.

L9 ANSWER 19 OF 35 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1994:657138 CAPLUS
DN 121:257138
TI Carbohydrate-substituted dibenzo[d,f][1,3,2]dioxaphosphepin stabilizers
IN Pastor, Stephen D.; Babiarz, Joseph E.
PA Ciba-Geigy Corp., USA
SO U.S., 11 pp.
CODEN: USXXAM
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 5310889	A	19940510	US 1992-918324	19920722 <--
	US 5414028	A	19950509	US 1994-198017	19940217 <--
PRAI	US 1992-918324	A3	19920722		

OS MARPAT 121:257138
GI

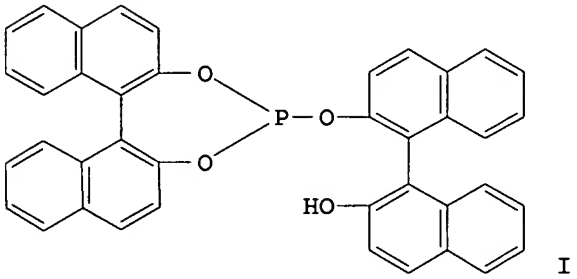


n I

AB The stabilizers have the structure I (Q = carbohydrate residue; R-R4 = C1-12 alkyl, C5-12 cycloalkyl, C6-10 aryl, C7-15 aralkyl; n = 1-6). A

solution of PCl3 in PhMe was treated dropwise with an equimolar amount of 3,3',5,5'-tetra-tert-butyl-2,2'-dihydroxybiphenyl in the presence of Et3N and then with 1,2:5,6-di-O-isopropylidene-D-glucose and Et3N to give a I (n = 1). Profax 6501 containing Ca stearate 0.075, pentaerythritol tetrakis(3,5-di-tert-butyl-4-hydroxyhydrocinnamate) 0.05, and the I 0.05% showed melt flow rate 3.5 (5.1) g/10 min after 1 (5) extrusion cycles at 274° with 90 s residence time, compared with 8.1 (17.5) g/10 min when the I was omitted.

L9 ANSWER 20 OF 35 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1994:523920 CAPLUS
DN 121:123920
TI Chiral dioxaphosphepan as a new ligand in rhodium(I) chemistry
AU Gavrilov, K. N.; Mikhel, I. S.
CS Ryazan. Gos. Pedagog. Inst. im. S. A. Esenina, Russia
SO Zhurnal Neorganicheskoi Khimii (**1994**), 39(3), 461-3
CODEN: ZNOKAQ; ISSN: 0044-457X
DT Journal
LA Russian
GI



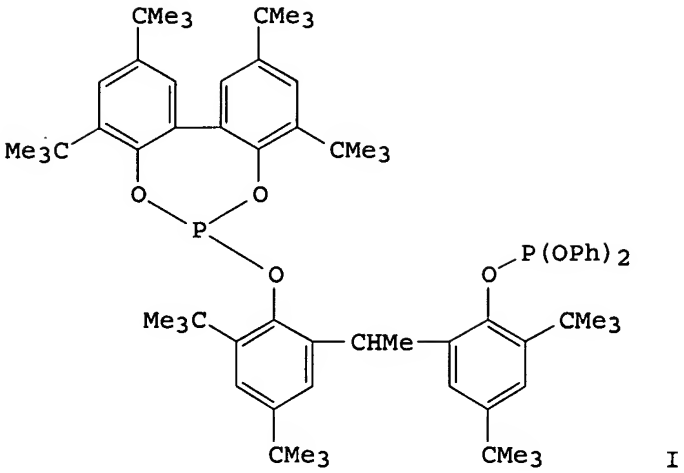
I

AB Phosphorylation of (S)-2,2'-dihydroxy-1,1'-binaphthyl gave optical active I. I reacted with [Rh(CO)2Cl]2 to give [Rh(CO)LCl]2 which was characterized by IR, NMR, electronic and mass spectra. [Rh(CO)LCl]2 was converted to Rh(CO)L2Cl in methylene chloride.

L9 ANSWER 21 OF 35 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1994:246664 CAPLUS
DN 120:246664
TI Bisphosphites of hindered bisphenols as heat and light stabilizers for polymers
IN Pastor, Stephen D.; Shum, Sai P.
PA Ciba-Geigy A.-G., Switz.
SO Eur. Pat. Appl., 24 pp.
CODEN: EPXXDW
DT Patent
LA English
FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 569328	A1	19931110	EP 1993-810301	19930426 <--
	EP 569328	B1	19990818		
	R: DE, ES, FR, GB, IT, NL				
	JP 06041531	A2	19940215	JP 1993-125517	19930428 <--
	CA 2095418	AA	19931106	CA 1993-2095418	19930503 <--
PRAI	US 1992-878675	A	19920505		

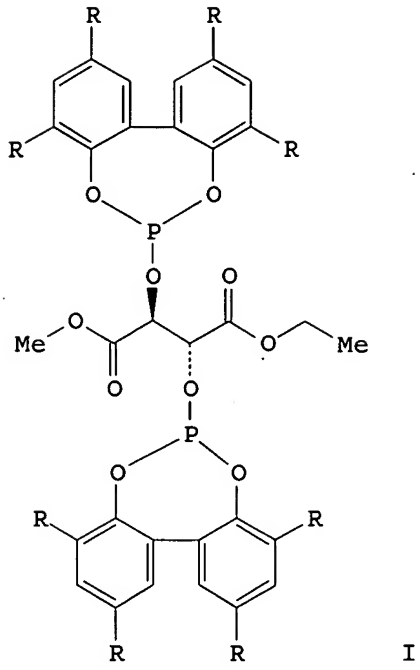
OS MARPAT 120:246664
GI



I

AB The title stabilizers are prepared for use in polymers such as polyolefins. Reacting 3,3',5,5'-tetra-tert-butyl-2,2'-dihydroxy-1-1'-biphenyl in turn with PCl3, 1,1-bis(3,5-di-tert-butyl-2-hydroxyphenyl)ethane, PCl3, and phenol gave 1-O-(2,4,8,10-tetra-tert-butyldibenzo[d,f][1,3,2]dioxaphosphep in-6-yl)-1'-O'-(diphenoxyphosphino)-2,2'-ethylidenebis(4,6-di-tert-butylphenol) (I). Isotactic polypropene containing 0.075% I showed melt index 7.0 and 31.5 after 1 and 3 extrusions, resp., vs. 13.2 and 65.9, resp., without I.

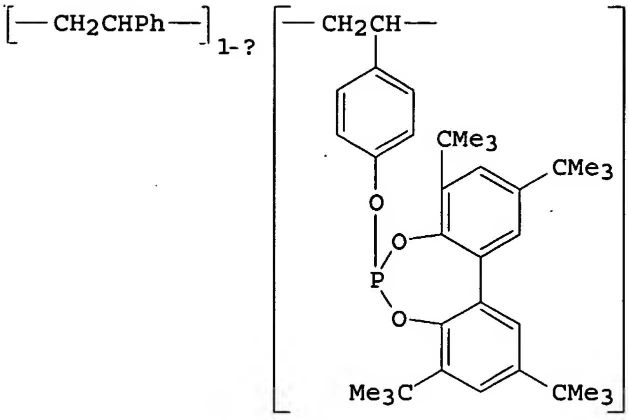
L9 ANSWER 22 OF 35 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1994:76973 CAPLUS
DN 120:76973
TI Rhodium catalyzed asymmetric hydroformylation with chiral diphosphite ligands
AU Buisman, Godfried J. H.; Kamer, Paul C. J.; van Leeuwen, Piet W. N. M.
CS Dep. Chem. Eng., Univ. Amsterdam, Amsterdam, 1018 WV, Neth.
SO Tetrahedron: Asymmetry (**1993**), 4(7), 1625-34
CODEN: TASYE3; ISSN: 0957-4166
DT Journal
LA English
OS CASREACT 120:76973
GI



I

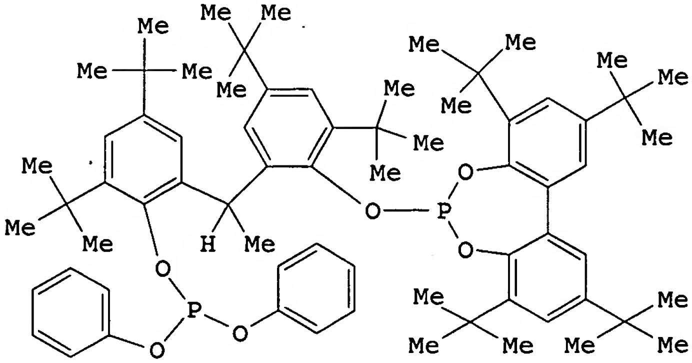
AB Chiral diphosphites, e.g., I (R= H, Me3C), have been synthesized starting from 1,2:5,6-diisopropylidene-D-mannitol, L-α,α,α,.alpha .-tetramethyl-1,3-dioxolan-4,5-dimethanol and L-diethyl tartrate. The diols react in moderate to good yields with 2,2'-bisphenoxyphosphorus chloride and 4,4',6,6'-tetra-tert-butyl-2,2'-bisphenoxyphosphorus chloride (32-92%) to the corresponding chiral diphosphites. These compds. all exhibit C2 symmetry and have been used as ligands in the rhodium catalyzed asym. hydroformylation of styrene. The catalytic activity of the diphosphites strongly depends on the bulkyness of the ligand. With a bulky ligand enantiomeric excesses up till 20% have been obtained under mild reaction conditions (25-40°, 40 bar syngas). Both enantiomeric excess and regioselectivity to the branched aldehyde strongly depend on the hydroformylation reaction conditions.

L9 ANSWER 23 OF 35 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1993:670348 CAPLUS
DN 119:270348
TI Fine tuning of bulky-phosphite modified rhodium catalysts by binding them to copolymers
AU Jongsma, Tjeerd; Fossen, Martijn; Challa, Ger; van Leeuwen, Piet W. N. M.
CS Lab. Polym. Chem., Univ. Groningen, Groningen, 9747 AG, Neth.
SO Journal of Molecular Catalysis (1993), 83(1-2), 17-35
CODEN: JMCADS; ISSN: 0304-5102
DT Journal
LA English
GI


I

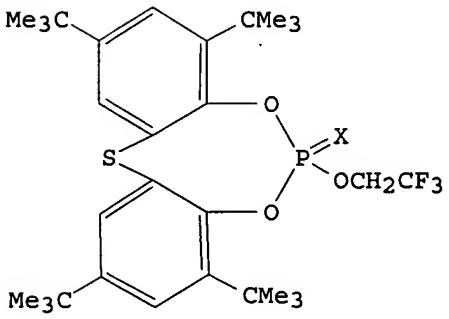
AB The influence of the chain loading on the activity and complex formation of a copolymer-bound rhodium hydroformylation catalyst in comparison with its low mol. weight analog has been studied in detail. As polymer support a perfectly random copolymer of styrene and 2,2'-bis(4,6-di-t-butylphenyl)-p-styryl phosphite (I) was used. The chain loading, α, of this copolymer with phosphite ligands has a large influence on the complex formation of the catalyst. With high chain loadings moderately active bis-phosphite catalysts are formed. Low chain loadings give active, easily accessible, monophosphite complexes. Study of the copolymer-bound catalysts yielded mechanistic information about the catalytic species involved in the hydroformylation of styrene and cyclooctene. The active species in the hydroformylation of sterically hindered alkenes is a monophosphite rhodium complex. The activity of the catalyst can be enhanced if excess phosphite is used. This effect was ascribed to faster reaction with hydrogen of bis-phosphite rhodium intermediate(s). The activity of the copolymer-bound catalyst towards the hydroformylation of cyclooctene is found to be as high as the activity of its low mol. weight analog. The hydroformylation of styrene proceeds more slowly.

L9 ANSWER 24 OF 35 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1993:517372 CAPLUS
DN 119:117372
TI Sterically congested phosphite ligands: synthesis, crystallographic characterization, and observation of unprecedented eight-bond 31P,31P coupling in the 31P-NMR spectra
AU Pastor, Stephen D.; Shum, Sai P.; Rodebaugh, Ronald K.; Debellis, Anthony D.; Clarke, Frank H.
CS Addit. Div., Ciba-Geigy Corp., Ardsley, NY, 10502, USA
SO Helvetica Chimica Acta (**1993**), 76(2), 900-14
CODEN: HCACAV; ISSN: 0018-019X
DT Journal
LA English
OS CASREACT 119:117372
GI

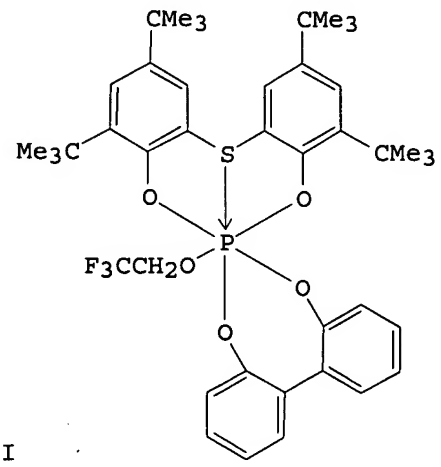

I

AB The synthesis and characterization of 2-{1-{3,5-bis(1,1-dimethylethyl)-2-{[2,4,8,10-tetrakis(1,1-dimethylethyl)dibenzo[d,f][1,3,2]dioxaphosphepin-6-yl]oxy}phenyl}ethyl}-4,6-bis(1,1-dimethylethyl)phenyl di-Ph phosphite (I) is described. In the 31P NMR spectrum (1H-decoupled) of I, an unprecedented eight-bond P,P coupling of J = 72.8 Hz is observed In the x-ray crystal structure of I, an intramol. P-P distance of 3.67 Å is found, which is within the sum of the van-der-Waals radii of the P-atoms. The observed intramol. P-P distance suggests that a through-space coupling mechanism is operative. The solid-state conformation of I is compared to the conformation obtained by semiempirical MO geometry optimizations (PM3 method). The calculated geometry suggests that the solid-state structure is near a true energy min., but that crystal-packing forces decrease the intramol. P-P distance in the solid state. In the absence of crystal-packing forces, however, the collisional and vibrational energy available in solution may lead to the population of states with a shortened intramol. P-P distance in I. The proximity of the P-atoms in I is due to restricted conformational freedom resulting from steric congestion within the mol. The free energy of activation (ΔG^* = 10.2 and 10.8 kcal/mol for unequal populations of exchanging conformers) for ring inversion of the dibenzo[d,f][1,3,2]dioxaphosphepin ring in I is determined by variable-temperature 31P NMR spectroscopy. Semiempirical MO calcn. on model compds. suggest that the structure of the transition state for ring inversion has the two aryl rings and O-atoms in a common plane, with the P-atom lying above this plane.

L9 ANSWER 25 OF 35 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1992:591918 CAPLUS
DN 117:191918
TI Pentacoordinated molecules. 93. Conformational variation of sulfur-bridged eight-membered rings in four-, five-, and six-coordinated oxygen-ligated phosphorus compounds
AU Prakasha, T. K.; Day, Roberta O.; Holmes, Robert R.
CS Chem. Dep., Univ. Massachusetts, Amherst, MA, 01003, USA
SO Inorganic Chemistry (**1992**), 31(16), 3391-7
CODEN: INOCAJ; ISSN: 0020-1669
DT Journal
LA English
OS CASREACT 117:191918
GI



I



II

AB Reaction of the eight-membered sulfur-containing cyclic phosphine I (X = -) with phenols yielded the phosphate I (X = O) and the pentaoxyphosphorane II. Two crystalline modifications of I (X = O) were obtained, an anti and a syn form. Due to P-S bond formation, II resulted as a pseudooctahedral structure. The conformation of the eight-membered ring varied in all three structures. When compared with related structures containing this basic

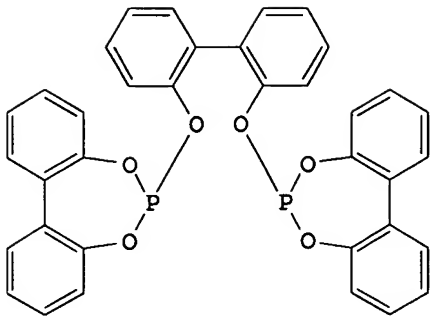
ring system, a high degree of conformational flexibility is apparent with coordination geometries at phosphorus extending from 4 to 6. Achievement of diequatorial ring orientation in trigonal bipyramids observed for some pentaoxyphosphoranes containing eight-membered rings and the lack of this orientation with six- and seven-membered rings in analogous structures is attributed to the greater conformational flexibility of the eight-membered rings, particularly their ability to maximize ring P-Oeq π bonding. The crystal structures of anti- and syn-I (X = O), and II were determined

L9 ANSWER 26 OF 35 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1992:174252 CAPLUS
DN 116:174252
TI Pentacoordinated molecules. 91. Conformational comparison of a seven-membered ring in tri- and pentacoordinated geometries of oxygen-containing phosphorus compounds. Solution NMR behavior of seven- and eight-membered rings in oxyphosphoranes
AU Hans, Johannes; Day, Roberta O.; Howe, Lori; Holmes, Robert R.
CS Dep. Chem., Univ. Massachusetts, Amherst, MA, 01003, USA
SO Inorganic Chemistry (**1992**), 31(7), 1279-85
CODEN: INOCAJ; ISSN: 0020-1669
DT Journal
LA English
GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB Reaction of cyclic phosphites with alcs. or a quinone in oxidative addition reactions led to new spirocyclic oxyphosphoranes I (n = 0, 1), II and the monocyclic oxyphosphorane III (R = pentafluorophenoxy), containing rings varying in size from five- to eight-membered. In addition, the cyclic phosphite IV was synthesized. The x-ray structure of I (n = 0) suggested a trigonal bipyramidal (TBP) geometry and that of IV showed similar "row-boat" conformations for the common seven-membered ring system. The latter contrasts with conformational change usually found for six-membered rings from chair to boat accompanying a change of coordination from tri- to pentacoordinate at phosphorus. Variable-temperature 1H NMR spectra of I and II provide activation energies for intramol. ligand-exchange processes (pseudorotation). The spectra of I are consistent with ground-state trigonal bipyramids (in agreement with the axial-equatorial (a-e) ring orientations found for I (n = 0) in the x-ray anal.) that undergo ligand exchange via TBP intermediates with the seven- and eight-membered rings positioned diequatorially (e-e). Activation energies of 11.5-12.9 kcal/mol are interpreted to include a steric effect and to reflect the higher energy of e-e vs a-e ring placement, which is not significantly different for seven- and eight-membered rings. In contrast, this energy difference for saturated six-membered rings in TBP geometries in the absence of steric effects has been estimated at 7 kcal/mol.

L9 ANSWER 27 OF 35 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1991:573323 CAPLUS
DN 115:173323
TI Chelating diphosphite complexes of nickel(0) and platinum(0): their remarkable stability and hydrocyanation activity
AU Baker, Michael J.; Harrison, Karl N.; Orpen, A. Guy; Pringle, Paul G.; Shaw, Gordon
CS Sch. Chem., Univ. Bristol, Bristol, BS8 1TS, UK
SO Journal of the Chemical Society, Chemical Communications (**1991**), (12), 803-4
CODEN: JCCCAT; ISSN: 0022-4936
DT Journal
LA English
GI



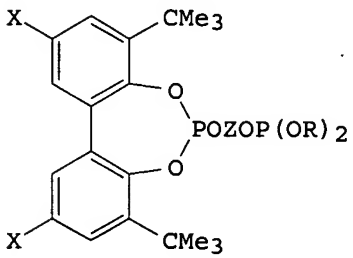
I

AB The synthesis, stability, and hydrocyanation catalytic activity of NiL2 (L = I) are described. The x-ray crystal structure of I and newly prepared PtL2.Qn (Q = pentane) reported. Crystal data: triclinic, space group P.hivin.1, a 9.210(2), b 11.541(3),c 14.183(4) Å, α 93.57(2), β 96.06(2), γ 100.55(2)°, Z = 2, R = 0.045; PtL2.Q; monoclinic, space group I2/a, a 23.094(5), b 14.044(2), c 24.164(5) Å, β 113.53(2)°, Z = 4, R = 0.039.

L9 ANSWER 28 OF 35 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1991:64754 CAPLUS
DN 114:64754
TI Hydroformylation of olefins in the presence of diphosphite complexes of rhodium as catalysts
IN Billing, Ernest; Abatjoglou, Anthony George; Bryant, David Robert
PA Union Carbide Corp., USA
SO Rom., 26 pp.
CODEN: RUXXA3
DT Patent
LA Romanian
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI RO 96102	B3	19890130	RO 1986-124706	19860904 <--
PRAI RO 1986-124706		19860904		

OS MARPAT 114:64754
GI



I

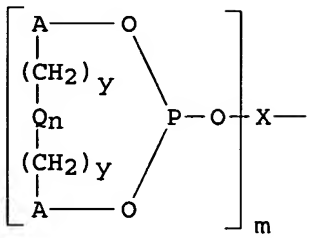
AB Olefins are hydroformulated with good selectivity to aldehydes at 50-100° in the presence of Rh complexes with the diphosphites I [X = H, MeO; Z = 2,2'-biphenylyle, 2,2'-binaphthylylene, 3,3',5,5'-tetrakis(tert-butyl)-2,2'-biphenylylene, 3,3'-di-tert-butyl-5,5'-dimethoxy-2,2'-biphenylylene, or 2,2'-ethylidenebis(4,6-di-tert-butylphenylene), R = Me, Ph, 4-nonylphenyl, 4-chlorophenyl, 2-tolyl] at I-Rh ratio 1-60. Thus, 2 mL 1-butene was hydroformulated with 1:1 CO-H (partial pressure 0.07 atm) at 70° in 15 mL PhMe containing 330 ppm Rh [as dicarbonylrhodium acetylacetonate] and 2% I (X = MeO, Z = 3,3'-di-tert-butyl-5,5'-dimethoxy-2,2'-biphenylylene, R = Me) at 70° to give a 10.3:1 BuCHO-EtCH(Me)CHO mixture at 5-20% conversion.

L9 ANSWER 29 OF 35 CAPLUS COPYRIGHT 2005 ACS on STN

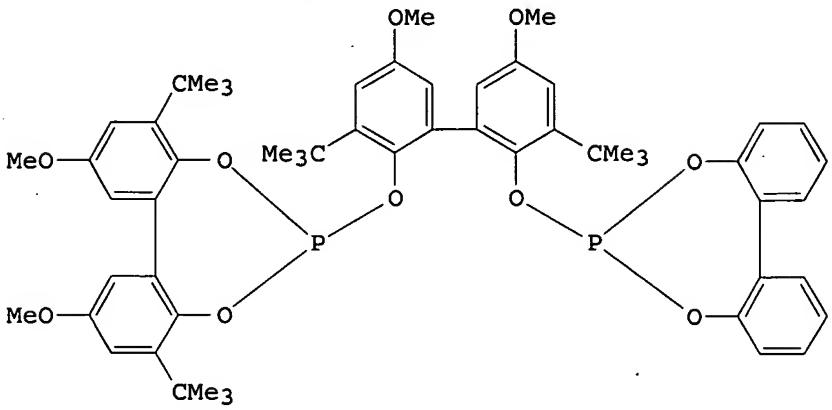
AN 1989:517287 CAPLUS
DN 111:117287
TI Homogeneous rhodium carbonyl compound-phosphite ligand catalysts and process for olefin hydroformylation
IN Billig, Ernst; Abatjoglou, Anthony G.; Bryant, David R.
PA Union Carbide Corp., USA
SO U.S., 27 pp. Cont.-in-part of U.S. 4,668,651.
CODEN: USXXAM
DT Patent
LA English
FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 4769498	A	19880906	US 1987-12329	19870209 <--
	US 4668651	A	19870526	US 1985-772859	19850905 <--
	CA 1281704	A1	19910319	CA 1986-516846	19860826 <--
	DK 8604234	A	19870306	DK 1986-4234	19860904 <--
	FI 8603570	A	19870306	FI 1986-3570	19860904 <--
	FI 88916	B	19930415		
	FI 88916	C	19930726		
	NO 8603546	A	19870306	NO 1986-3546	19860904 <--
	NO 167652	B	19910819		
	NO 167652	C	19911127		
	CN 86106811	A	19870429	CN 1986-106811	19860904 <--
	CN 1007348	B	19900328		
	ZA 8606728	A	19870429	ZA 1986-6728	19860904 <--
	BR 8604261	A	19870505	BR 1986-4261	19860904 <--
	JP 62116535	A2	19870528	JP 1986-206937	19860904 <--
	JP 04051531	B4	19920819		
	ES 2001416	A6	19880516	ES 1986-1617	19860904 <--
	HU 46642	A2	19881128	HU 1986-3820	19860904 <--
	HU 204489	B	19920128		
	IN 168034	A	19910126	IN 1986-MA713	19860904 <--
	PL 152601	B1	19910131	PL 1986-261286	19860904 <--
	CS 275462	B2	19920219	CS 1986-6430	19860904 <--
	CS 275474	B2	19920219	CS 1988-7490	19860904 <--
	AU 8662373	A1	19870312	AU 1986-62373	19860905 <--
	AU 597593	B2	19900607		
	RU 2005713	C1	19940115	RU 1987-4028803	19870106 <--
	CN 1041761	A	19900502	CN 1989-107465	19890919 <--
	CN 1021202	B	19930616		
PRAI	US 1985-772859	A2	19850905		
	SU 1987-4028803	A	19870106		

OS CASREACT 111:117287; MARPAT 111:117287
GI



I



II

AB Catalysts for the hydroformylation of C2-20 α-olefins and C4-20 internal olefins comprise Rh carbonyl compds. complexed with phosphite ligands I (A = C6-18 (un)substituted arylene; Q = C(R1)R2, O, S, NR3, Si(R4)R5, CO; R1, R2 = H, C1-12 alkyl, Ph, tolyl, anisyl; R3-R5 = H, Me; X = m-valent radical selected from alkylene, alkylene-oxy-alkylene, arylene, arylene-(CH2)yQn(CH2)y-arylene; such that arylene has a divalent A definition; m = 2-6; n = y = 0,1]. 1-Butene was hydroformylated in the presence of a catalyst comprising Rh dicarbonyl acetylacetonate, phosphite II, and CO/H (1:2 molar ratio) at 70°/100 psi-absolute, producing n-valeraldehyde/2-methylbutyraldehyde in a 50.5:1 molar ratio at 5-20% 1-butene conversion.

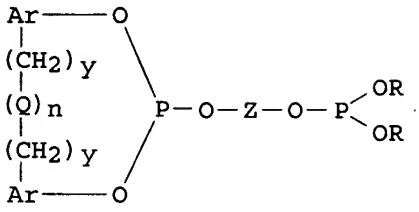
L9 ANSWER 30 OF 35 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1987:407392 CAPLUS
DN 107:7392
TI Bis(phosphite) complexes as hydroformylation catalyst precursors
IN Billig, Ernst; Abatjoglou, Anthony George; Bryant, David Robert
PA Union Carbide Corp., USA
SO Eur. Pat. Appl., 141 pp.
CODEN: EPXXDW
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 213639	A2	19870311	EP 1986-112256	19860904 <--
	EP 213639	A3	19880113		
	EP 213639	B1	19910626		
	R: AT, BE, DE, FR, GB, IT, NL, SE				
	US 4748261	A	19880531	US 1985-772891	19850905 <--
	CA 1271773	A1	19900717	CA 1986-516845	19860826 <--
	DK 8604230	A	19870306	DK 1986-4230	19860904 <--
	FI 8603569	A	19870306	FI 1986-3569	19860904 <--
	FI 85863	B	19920228		
	FI 85863	C	19920610		
	NO 8603547	A	19870306	NO 1986-3547	19860904 <--
	NO 172494	B	19930419		
	NO 172494	C	19930728		
	CN 86106770	A	19870422	CN 1986-106770	19860904 <--
	CN 1019104	B	19921118		
	ZA 8606729	A	19870429	ZA 1986-6729	19860904 <--
	BR 8604262	A	19870505	BR 1986-4262	19860904 <--

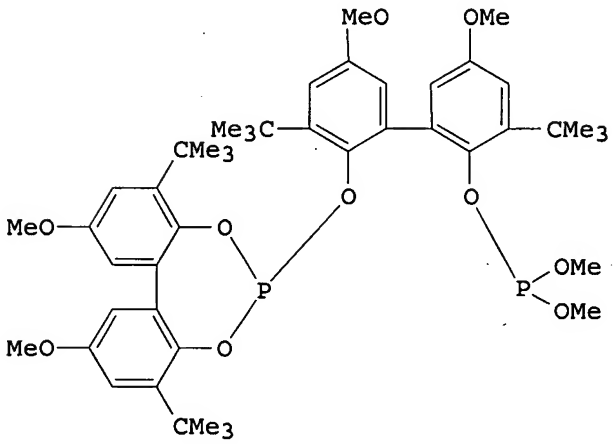
	JP 62116587	A2	19870528	JP 1986-206940	19860904 <--
	JP 05080264	B4	19931108		
	ES 2001654	A6	19880601	ES 1986-1618	19860904 <--
	HU 47515	A2	19890328	HU 1986-3825	19860904 <--
	HU 204747	B	19920228		
	PL 147093	B1	19890429	PL 1986-261285	19860904 <--
	SU 1537133	A3	19900115	SU 1986-4028173	19860904 <--
	IN 168017	A	19910119	IN 1986-MA712	19860904 <--
	AT 64739	E	19910715	AT 1986-112256	19860904 <--
	SK 278287	B6	19960807	SK 1988-8434	19860904 <--
	SK 278296	B6	19960904	SK 1986-6429	19860904 <--
	CZ 284301	B6	19981014	CZ 1986-6429	19860904 <--
	AU 8662372	A1	19870312	AU 1986-62372	19860905 <--
	AU 598749	B2	19900705		
	US 4885401	A	19891205	US 1988-176346	19880331 <--
	CZ 284335	B6	19981014	CZ 1988-8434	19881219 <--
	NO 9004906	A	19870306	NO 1990-4906	19901112 <--
	NO 174622	B	19940228		
	NO 174622	C	19940608		
	JP 06166694	A2	19940614	JP 1993-158194	19930604 <--
	JP 07108910	B4	19951122		
PRAI	US 1985-772891	A	19850905		
	EP 1986-112256	A	19860904		
	NO 1986-3547	A1	19860904		

OS CASREACT 107:7392

GI



I



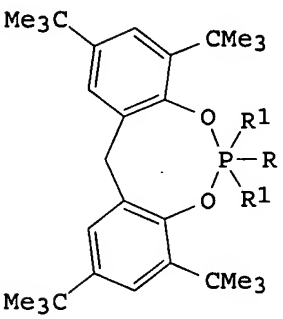
II

AB The reaction products of Group VIII transition metal complexes with phosphites I [Ar = (substituted) aryl; Z = alkylene, arylene; Q = CR1R2, O, S, NR3, SiR4R5, CO; y = 0,1; R = (substituted) alkyl, aryl, aralkyl, or alicyclyl; R1, R2 = H, alkyl, Ph, tolyl, anisyl; R3, R4, R5 = H, Me] are used as catalyst precursors in the hydroformylation of olefins. Thus, n-valeraldehyde and 2-methylbutyraldehyde were produced at a mol ratio of 10.3:1 by hydroformylation of 1-butene at 70° and 50 psi (CO/H2) in the presence of a catalyst precursor which was prepared by reaction of Rh(CO)2acac and phosphite II.

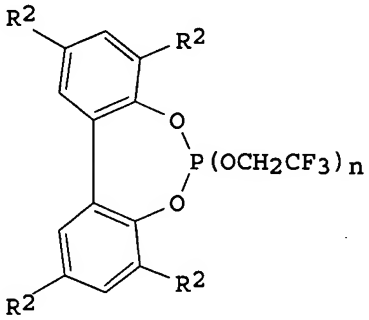
L9 ANSWER 31 OF 35 CAPLUS COPYRIGHT 2005 ACS on STN

AN 1985:471388 CAPLUS

DN 103:71388
TI Inhibition of pseudorotation in some monocyclic pentaoxyphosphoranes
AU Abdou, Wafau M.; Denney, Donald B.; Denney, Dorothy Z.; Pastor, Stephen D.
CS Dep. Chem., Rutgers, State Univ. New Jersey, New Brunswick, NJ, 08903, USA
SO Phosphorus and Sulfur and the Related Elements (**1985**), 22(1), 99-107
CODEN: PREEDF; ISSN: 0308-664X
DT Journal
LA English
OS CASREACT 103:71388
GI



I



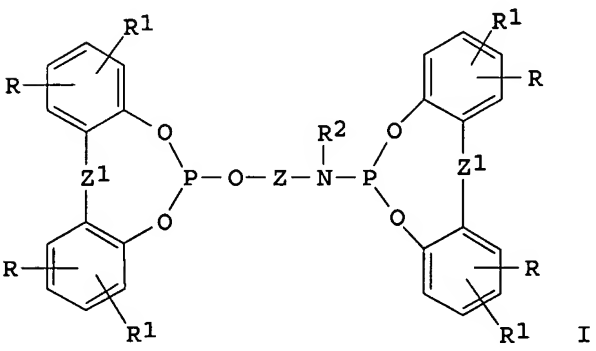
II

AB Phosphoranes (I; R = R1 = OCH2CF3; R = EtO, R1 = OCH2CF3) and II (R2 = H, Me3C; n = 3) were prepared by treating I (R1 = -) and II (n = 1) with CF3CH2OSPh. The phosphoranes with Me3C groups showed significant barriers (14-16 kcal/mol) to intramol. ligand reorganization. That with no Me3C group had a barrier too low to measure. These results were discussed in terms of steric inhibition of pseudorotation.

L9 ANSWER 32 OF 35 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1984:552909 CAPLUS
DN 101:152909
TI Dibenzodioxaphosphepin and -dioxaphosphocin processing stabilizers
IN Pastor, Stephen D.; Spivack, John D.
PA Ciba-Geigy A.-G. , Switz.
SO Eur. Pat. Appl., 24 pp.
CODEN: EPXXDW
DT Patent
LA German
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 108714	A1	19840516	EP 1983-810463	19831007 <--
	R: DE, FR, GB, IT				
	JP 59089693	A2	19840523	JP 1983-191660	19831013 <--
PRAI	US 1982-434083	A	19821013		

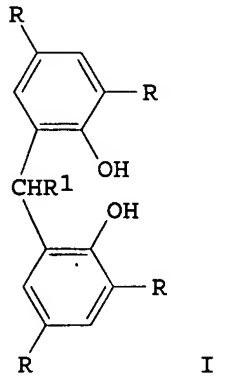
GI



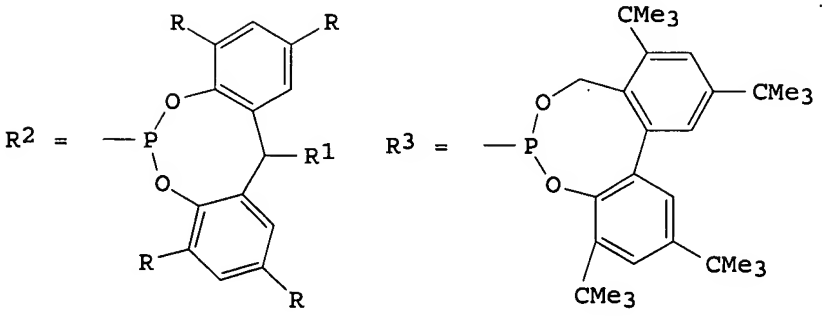
I

AB The title compds. (I, R,R' = H, C1-18 alkyl, C5-6 cycloalkyl, C1-18 alkyl-substituted Ph; R2 = H, C1-12 alkyl, Ph; Z = C1-6 alkylene, C5-6 cycloalkylene; Z1 = C1-12 alkylidene or direct bond) are prepared and used as heat stabilizers alone or in combination with light stabilizers and antioxidants in processing organic polymers and lubricants. Thus, I [R, R' = tert-Bu; R2 = Me; Z = (CH2)2; Z1 = direct bond] (II) [90420-47-6] was prepared from PCl3, 3,3',5,5'-tetra-tert-butylbiphenyl-2,2'-diol [6390-69-8] and N-methylethanolamine [109-83-1]. During extrusion (288°) of polypropylene [9003-07-0] containing 0.1% II, the internal extruder pressure was 109 kg/cm2 and the yellowness value (ASTM D1925-63T) of a sample heat-pressed from the extrudate granules was 4.8, compared with 95 and 5.1, resp., in the absence of stabilizer, and 109 and 12.1, resp., in the presence of 0.1% antioxidant.

L9 ANSWER 33 OF 35 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1984:511035 CAPLUS
DN 101:111035
TI Bridged heterocycyles: the reaction of seven- and eight-membered cyclic phosphorochloridites with polyols
AU Odorisio, Paul A.; Pastor, Stephen D.; Spivack, J. D.; Bini, Dario; Rodebaugh, R. K.
CS Plast. Addit. Div., CIBA-GEIGY Corp., Ardsley, NY, 10502, USA
SO Phosphorus and Sulfur and the Related Elements (**1984**), 19(3), 285-93
CODEN: PREEDF; ISSN: 0308-664X
DT Journal
LA English
GI



I



AB Bisphenols I (R = CMe3, CMe2Et; R1 = H, Me, Pr) reacted with PCl3 and 0.5 equiv diols HOCH2XCH2OH [X = (CH2)4, CMe2, CH2SCH2] to give bridged dioxaphosphocins R2OCH2XCH2OR2 (II), which existed in only one conformation in solution II (R = CMe3, CMe2Et; R1 = Me; X = CH2SCH2) were cis-trans isomers. I (R = CMe3, R1 = H) reacted with PCl3 and polyols EtC(CH2OH)3 and C(CH2OH)4 to give EtCH(CH2OR2)3 and C(CH2OR2)4 resp. Similar treatment of 3,5,2-(Me3C)2(HO)C6H2C6H2(OH)(CMe3)2-2,3,5 with PCl3

and HOCH2CH2SCH2CH2OH or C(CH2OH)4 gave dioxaphosphepin derivs. R3OCH2CH2SCH2CH2OR3 or C(CH2OR3)4.

L9 ANSWER 34 OF 35 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1984:472820 CAPLUS
DN 101:72820
TI Reaction of seven- and eight-membered cyclic phosphorochloridites with alkanolamines
AU Odorisio, Paul A.; Pastor, Stephen D.; Spivack, John D.
CS Res. Dev. Lab., Ciba-Geigy Corp., Ardsley, NY, 10502, USA
SO Phosphorus and Sulfur and the Related Elements (**1984**), 19(1), 1-10
CODEN: PREEDF; ISSN: 0308-664X
DT Journal
LA English
GI

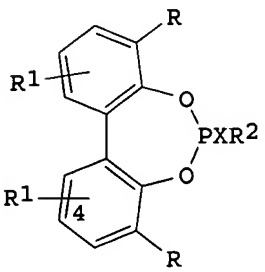
* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB Treating I (R = H, Me; X = Cl) with alkanolamines R1NHCH2CH2OH (R1 = Me3C, Me, H) in the presence of Et3N gave I (same R; X = OCH2CH2NHR1) (II). IR and NMR spectra showed no formation of the tautomeric pentacoordinate forms of II. Similarly, III did not exist in the pentacoordinate form. Also prepared were IV (n = 2, R2 = H; n = 3, R2 = -) and V (R3 = Me, Et, Bu).

L9 ANSWER 35 OF 35 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1979:612208 CAPLUS
DN 91:212208
TI Cyclic phosphites useful as stabilizers
IN Spivack, John D.
PA Ciba-Geigy A.-G., Switz.
SO Eur. Pat. Appl., 21 pp.
CODEN: EPXXDW
DT Patent
LA German
FAN.CNT 3

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 2821	A1	19790711	EP 1978-101825	19781222 <--
	EP 2821	B1	19820623		
	R: BE, CH, DE, FR, GB, IT, NL				
	US 4196117	A	19800401	US 1978-866748	19780103 <--
	JP 54100391	A2	19790808	JP 1978-164573	19781229 <--
	JP 62045875	B4	19870929		
	CA 1104580	A1	19810707	CA 1978-318804	19781229 <--
PRAI	US 1978-866748		19780103		

GI



I

AB Dibenzo[d,f][1,3,2]dioxaphosphepins (I; R = C1-18 alkyl; R1 = H or C1-18

alkyl; R2 = C1-18 alkyl, Ph, or a doubling radical such as alkylene, arylene, or allylene; X = S or O) (prepared by esterifying the corresponding phosphorochloridite with R2OH or R2(OH)2 in the presence of alkali or amine) are used as antioxidants for polypropylene [9003-07-0] compns. which do not discolor during short-term, high-temperature processing. Thus, 45.2 g PCl3 and 123.0 g 4,4',6,6'-tetra-tert-butyl-2,2'-biphenol [6390-69-8] were combined with Et3N to give the cyclic monochloridate [71941-98-5] which with K 2,4-di-tert-butylphenoxide [37408-22-3] gave I (R = tert-Bu, R1 = 4-tert-Bu, R2 = 2,4-di-tert-butylphenyl, X = O) (II) [71941-89-4]. Profax 6801 containing 0.1 weight% pentaerythritol tetrakis[3-(3,5-di-tert-butyl-4-hydroxyphenyl)propionate] (III) and 0.05 weight% II after extrusion 1, 3, or 5 times at 260° had ASTM D 1925-63T yellowness index (after injection molding at 193°) 5.9, 7.4, 9,9, resp., and exhibited extrusion pressure 88.59, >9.10, or 72.77 kg/cm2, resp. Polymer containing 0.15 part III only had yellowness values 7.8, 10.3, or 12.5, resp., and the unstabilized polymer had extrusion pressures 76.99, 59.06, or 46.05 kg/cm2, resp.

1
2
3
4
O2
O
P
O
O
O1